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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/601,952
Filing Date: June 23, 2003
Appellant(s): JAGGER ET AL.

Glenn Seager
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/30/2010 appealing from the Office action mailed 11/19/2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 9-20.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6,948,223	Shortt	9-2005
6,629,350	Motsenbocker	10-2003
5,920,975	Morales	7-1999
5,893,868	Hanson et al.	4-1999
5,836,965	Jendersee et al.	11-1998
5,147,302	Euteneuer et al.	9-1992
5,074,845	Miraki et al.	12-1991
WO 02/066095 A2	Johnson	8-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt (US 6,948,223) in view of Morales (US 5,920,975) and Hanson et al. (US 5,893,868; "Hanson"). Shortt discloses a method for fabricating a balloon catheter stent deployment system comprising:

- providing a balloon catheter with an inner tubular shaft disposed within an outer tubular shaft, the distal end of the inner shaft extending distally beyond the distal end of the outer shaft, and an inflatable balloon having a proximal end attached to the outer shaft near the distal end thereof and a distal end attached to the inner shaft near the distal end thereof (see fig. 2)

- placing a stent over the balloon so that a distal end of the stent is disposed proximally to the distal end of the balloon leaving a distal section of the balloon extending from the distal end of the stent to the distal end of the balloon uncovered by the stent and a proximal end of the

stent is spaced distally from the proximal end of the balloon leaving a proximal section of the balloon uncovered by the stent that extends from the proximal end of the stent to the proximal end of the balloon

- crimping the stent to leave the stent with initial outer diameter (col. 2 ll. 17)

- placing a stepped enclosure over the stent and balloon wherein the stepped enclosure comprising a first section (2nd TFE) having a first inner diameter and that is connected to a second section (3rd Center TFE) having a second inner diameter, the first inner diameter being greater than or equal to the second inner diameter, the second inner diameter being greater than the initial outer diameter of the stent but in close approximation thereto, the second section of the stepped enclosure being longer than the stent, and wherein the first section of the stepped enclosure is disposed over the proximal section of the balloon and the second section of the stepped enclosure is disposed over the stent and the distal section of the balloon (col. 2 ll. 12-42),

- inflating the balloon so that the proximal section of the balloon inflates and engages the first section of the stepped enclosure and the stent and a portion of the balloon disposed beneath the stent and the distal section of the balloon are prevented from substantial expansion by the second section of the stepped enclosure (see proximal pillow gap), and the maximum outer diameter of the distal section of the balloon is no greater than the initial outer diameter of the stent

-removing the balloon and stent from the stepped enclosure (col. 2 ll. 40-42).

Shortt fails to disclose crimping the stent onto the balloon as the step of crimping is done prior to the stent being placed over the balloon according to the disclosure of Shortt. However, as taught by Morales, it is old and well known to first place a stent onto a balloon and then crimp the stent onto the balloon (col. 1, ll. 55-61). Crimping a stent onto a balloon prevents the stent

from sliding off the catheter when the catheter is advanced through the patient's vasculature. Crimping the stent after it has been placed onto the balloon has the obvious advantage of being able to more tightly fit the stent onto the balloon as opposed to sliding a crimped stent onto a balloon. Therefore, such a modification to the method of Shortt would have been obvious to one skilled in the art in view of Morales.

Shortt also fails to disclose a maximum outer diameter of the distal section of the balloon that is no greater than the initial diameter of the stent since the balloon includes a distal pillow. However, Hanson discloses that it is well known to include only a proximal balloon pillow (resulting from "dam 18") on a stent delivery balloon catheter (figs. 15, 16). Hanson discloses such a configuration as an alternative to having both a proximal and distal balloon pillow (figs. 17, 18). It would have been obvious to one skilled in the art to have modified the method of Shortt in view of Hanson to include only a proximal balloon since one skilled in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product of ordinary skill and common sense.

Regarding claim 13, the stepped enclosure is a stepped tube and the second section of the stepped tube extends into the first section of the stepped tube to provide an overlap section between the two sections (see fig. 2).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson as applied to claim 9 above and further in view of Euteneuer et al. (U.S. 5,147,302; "Euteneuer"). Modified Shortt discloses that the method substantially as stated above, but fails to disclose flaring the ends of the stepped tube enclosure.

Euteneuer discloses including flared ends on tubes (50) that are placed over a balloon in order to reduce abruptness of the leading edge of the tube (col. 4 ll. 7-15). Reduced abruptness allows for easier placement of the tube over the balloon. It would have been obvious to one of

ordinary skill in the art at the time of the invention to modify the method of Shortt to include flared ends on the stepped tube in order to facilitate placement of the stepped tube over the stent and balloon as made obvious by Euteneuer.

Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson. The following 103 rejections refer to the improved method disclosed by Shortt whereas the 103 rejections of claims 9 and 13 discussed above are based on the prior art that Shortt discloses as old and well known in the art in the background. Shortt in view of Morales discloses a method for fabricating a balloon catheter stent deployment system comprising:

- providing a balloon catheter (see fig. 7)

- placing a stent over the balloon (see fig. 7)

- crimping the stent onto the balloon to leave the stent with initial outer diameter (col. 2 ll. 54-55) as taught by Morales

- placing a stepped enclosure over the stent and balloon

In particular, Shortt discloses a stepped enclosure (see fig. 6) which includes a second section that is at least as long as the stent with a second inner diameter that is greater than the initial outer diameter of the stent but in close approximation to thereto. The enclosure also includes a first portion that covers the proximal section of the balloon. Shortt does not expressly disclose that the diameter of this first portion is greater than or equal to the inner diameter of the second section. However, Shortt discloses that the channels of the mold may be made such that the channel includes sections for formations of a proximal pillow (col. 4 ll. 5-7 and 52-59). As seen in fig. 7a, the resulting balloon catheter stent deployment system has a proximal pillow. This would only result if the section of the mold channel that covers the proximal section of the balloon has a larger diameter than the section covering the stent. Shortt discloses applying

pressure to the mold in order to secure the stent to the balloon (col. 2 ll. 60-61). The balloon then inflates and will be allowed to inflate in the section of the stepped enclosure where the diameter is larger, thereby forming the proximal pillow shown in fig. 7a. As shown in fig. 7a, the balloon is inflated so that the proximal section of the balloon engages the first section of the stepped enclosure and the proximal end of the stent since the diameter just proximal of the proximal end of the stent is larger than the outer diameter of the stent. Therefore, it would have been obvious to one of ordinary skill in the art to modify the method of Shortt to include providing a stepped enclosure comprising a first section covering the proximal section of the balloon, the first section having a diameter greater than the second section disclosed by Shortt which covers the stent in order to achieve the configuration shown in fig. 7a. As discussed above in more detail, Morales teaches first placing the stent onto the balloon and then crimping the stent onto the balloon.

Shortt also fails to disclose a maximum outer diameter of the distal section of the balloon that is no greater than the initial diameter of the stent due to the presence of a distal balloon pillow. However, Hanson discloses that it is well known to include only a proximal balloon pillow (resulting from “dam 18”) on a stent delivery balloon catheter (figs. 15, 16; col. 10, ll. 19-25). Hanson discloses such a configuration as an alternative to having both a proximal and distal balloon pillow (figs. 17, 18). It would have been obvious to one skilled in the art to have modified the method of Shortt in view of Hanson to include only a proximal balloon since one skilled in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product of ordinary skill and common sense.

Regarding claim 18, Shortt discloses the invention substantially as stated above but fails to disclose that the gas used to inflate the balloon has a temperature ranging from about 40º C to about 60º C. However, Appellant has not disclosed that the temperature of the gas in the

range from about 40˚ to about 60˚ C (in spec. 40˚ to 85˚ C) is used for a particular purpose or provides any advantage. Furthermore, Appellant discloses in the instant specification that the gas may alternatively be delivered at ambient temperature with no disadvantage disclosed (p. 8 ll. 23-26 of instant specification). One of ordinary skill in the art would expect the method of Shortt using an ambient temperature to perform equally as well as Appellant's claimed temperature range (40 to 60˚C) since no disadvantage is disclosed for using ambient temperature gas for inflation. Moreover, Shortt exposes the inflated balloon to an elevated temperature after inflation to help set the stent, and therefore the gas will reach this temperature. Accordingly, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Shortt to include the step of delivering gas having a temperature range from about 40˚ to about 60˚ C because such a modification would have been considered a mere design consideration which fails to patentably distinguish over Shortt.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson as applied to claim 9 above and further in view of Miraki et al. (U.S. 5,074,845; "Miraki"). Shortt in view of Morales and Hanson discloses the invention as stated above except for inserting a protective sleeve over the stent after removing the balloon from the stepped enclosure.

However, Miraki discloses that it is old and well known to house a balloon catheter in a protective sleeve (52) before use in order to keep the catheter sterile (col. 3 ll. 19-21). This protective sleeve is put on the finished catheter and is therefore placed over the catheter after the manufacturing process. Therefore, it would have been obvious to one of ordinary skill in the art to modify the method of Shortt to include inserting a protective sleeve over the stent as made obvious by Miraki in order to keep the stent sterile. Miraki does not disclose keeping the

protective sleeve in a position proximal to the balloon prior to and during a manufacturing step and then sliding it over the balloon after the step is completed. However, Appellant has not disclosed that keeping the sleeve pre-mounted on the catheter proximal to the stent and then sliding the sleeve over the stent after removing the stepped tube is used for any particular purpose, or provides any advantage. Furthermore one of ordinary skill in the art would expect the modified method of Shortt and Appellant's claimed method to perform equally well using either a protective sleeve that is pre-mounted proximally of the stent and then slid over the stent or a protective sleeve that is slide over the stent from the distal end of the stent.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson as applied to claim 9 above and further in view of Johnson (WO02/066095). Shortt in view of Morales and Hanson discloses the invention substantially as stated above, but fails to disclose that the ends of the stepped tube are flared.
However, Johnson discloses that it is old and well known to flare ends of fold-over molds used for forming balloon catheter stent deployment assemblies. Johnson discloses that flared edges further facilitate the placement of the assembly in the mold (see page 18 and fig. 9). Therefore, it would have been obvious to one of ordinary skill in the art to modify the device of Shortt to include flared ends on the stepped enclosure as made obvious by Johnson in order to facilitate insertion of the assembly in the mold.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson as applied to claim 9 above and further in view of Motsenbocker (U.S. 6,629,350; "Motsenbocker"). Shortt in view of Morales and Hanson discloses the invention substantially as stated above, but fails to disclose the stepped enclosure (mold) being formed by a plurality of crimping elements each having a stepped leading edge to form the stepped enclosure that are capable of heating the stent and the balloon.

However, Motsenbocker discloses that it is old and well known in the art to use a plurality of crimping elements, each having a stepped leading edge (col. 7 ll. 55-59), to form a stepped enclosure wherein the crimping elements are movable between crimping and retracted positions (see abstract). Motsenbocker discloses that this device is superior to stepped tubes because the bore size of a stepped tube limits the diameter of the stent (col. 1 ll. 47 and 63+), which is avoided using the crimping elements. Furthermore, Motsenbocker discloses that heaters may be placed in the crimping elements (col. 13, ll. 7-10) so that heat may be applied during crimping as is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Shortt to include a plurality of crimping elements with stepped edges that are capable of delivering heat as made obvious by Motsenbocker to form the stepped enclosure (mold) in order to gain the advantage of a changing bore size that allows a single mold to hold assemblies of varying diameters.

Claims 16-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shortt in view of Morales and Hanson as applied to claim 9 above and further in view of Jendersee et al. (US 5,836,965; "Jendersee"). Regarding claims 16 and 17, modified Shortt discloses the method substantially as stated above but fails to disclose heating the stent and balloon to a temperature ranging from about 50° C to about 85° C degrees.

However, Jendersee discloses that it is old and well known to heat a balloon catheter stent deployment assembly to about 65°C (150° F = 65.6° C) to set the assembly (col. 6 ll. 64-67). Although Shortt discloses heating the assembly to about 93° C, Shortt also discloses that the temperature to which the assembly is heated will depends on the materials being used (col. 4 ll. 38-41). Shortt is silent on the materials used for the assembly and if the materials of Jendersee such as a balloon formed of polyethylene terephthalate (PET) are employed using the method of Shortt, it would be obvious to one of ordinary skill in the art to modify the method

of Shortt to include the step of heating the stent and balloon to a temperature of about 65° C as made obvious by Jendersee in order to be able to form a balloon catheter stent assembly with the materials of Jendersee using the method and mold of Shortt.

Regarding claim 19, Shortt discloses the method substantially as stated above including pressurizing the balloon (col. 2, ll. 60-61), but is silent on a pressure range and time period for the pressurizing step.

However, Jendersee discloses that it is old and well known in the art to pressurize the balloon to an internal pressure ranging from about 30 to about 75psi (col. 6, line 64) during the setting of a balloon catheter stent deployment assembly. Since Jendersee et al. has disclosed this range as being appropriate for setting of a balloon catheter stent deployment assembly, one of ordinary skill would be motivated to use this range to carry out the method of Shortt with a reasonable expectation of success. Jendersee fails to disclose a time period for pressurizing the balloon ranging from 5 seconds to about 1 minute. However, Appellant has not disclosed that pressurizing the balloon for a period ranging from 5 seconds to about 1 minute solves any stated problem, is used for any particular purpose, or provides any advantage. Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller,* 105 USPQ 233).

Accordingly, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Shortt such that the time period for pressurizing the balloon ranges from 5 seconds to about 1 minute because such a modification would have been considered a mere design consideration which fails to patentably distinguish over modified Shortt.

Regarding claim 20, Shortt discloses the invention substantially as stated above but fails to disclose inflating the balloon with a gas having a temperature ranging from about 40 to about

60º C and pressurizing the balloon to an internal pressure ranging from about 30º C to about 75º C for a time period ranging from about 5 seconds to about 1 minute.

However, Jendersee discloses that it is old and well known in the art to pressurize the balloon to an internal pressure ranging from about 30 to about 75psi (col. 6, line 64) during the setting of a balloon catheter stent deployment assembly. Since Jendersee et al. has disclosed this range as being appropriate for setting of a balloon catheter stent deployment assembly, one of ordinary skill would be motivated to use this range to carry out the method of Shortt with a reasonable expectation of success. Jendersee fails to disclose a time period for pressurizing the balloon ranging from 5 seconds to about 1 minute. However, Appellant has not disclosed that pressurizing the balloon for a period ranging from 5 seconds to about 1 minute solves any stated problem, is used for any particular purpose, or provides any advantage. Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller,* 105 USPQ 233). Regarding the temperature of the gas, Appellant has not disclosed that the claimed range (about 40˚ to about 60˚ C) is used for a particular purpose or provides any advantage. Furthermore, Appellant discloses in the instant specification that the gas may alternatively be delivered at ambient temperature with no disadvantage disclosed (p. 8 ll. 23-26 of instant specification). One of ordinary skill in the art would expect the method of Shortt using an ambient temperature to perform equally as well as Appellant's claimed temperature range (40 to 60˚C) since no disadvantage is disclosed for using ambient temperature gas for inflation. Moreover, Shortt exposes the inflated balloon to an elevated temperature after inflation to help set the stent. Accordingly, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Shortt to include the step of delivering gas having a temperature range from about 40˚ to about 60˚ C and a pressure of

from about 30 to about 75 psi for from about 5 seconds to about 1 minute because such a modification would have been considered a mere design consideration which fails to patentably distinguish over Shortt.

(10) Response to Argument

Appellant argues that Shortt fails to disclose an outer shaft and a balloon having a proximal end attached to the outer shaft and a distal end attached to the distal end of an inner shaft. In particular, Appellant argues that there is no separate balloon element disclosed in figure 2 of Shortt and therefore no attachments between the balloon and the inner or outer shafts. However, figure 2 of Shortt clearly shows an inflatable region forming what can be considered a balloon wherein the proximal end of the balloon is attached to an outer shaft, shown surrounding an inner shaft, and the distal end of the balloon is attached to the inner shaft. Shortt discloses in column 2, lines 30-40 that the assembly shown in figure 2 comprises a balloon which is inflated to form proximal and distal pillows. The balloon is connected to the shafts as shown in figure 2 and therefore is considered attached to the shafts. There is no structure in the claim regarding the attachment between the shafts and the balloon that distinguishes the claimed attachment from the prior art of Shortt. For example, no overlap between the balloon and the outer shaft has been claimed. There are also no limitations requiring that the balloon and shafts are made from different materials. The figure below is a marked up copy of figure 2 of Shortt, wherein the examiner has added labels to indicate what is being considered the balloon, inner shaft, and outer shaft.

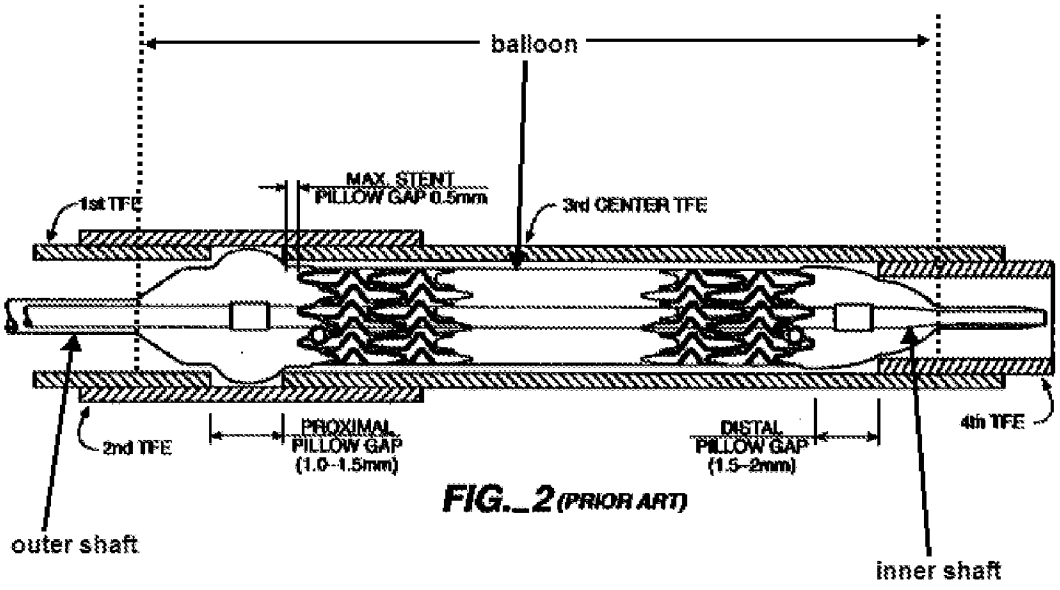

FIG._2 (PRIOR ART)

Appellant also argues that it would not have been obvious to crimp the stent after it has been placed on the balloon as taught by Morales instead of crimping the stent before positioning it onto the balloon as disclosed by Shortt. Appellant points out that Shortt crimps the balloon and then places it onto the stent such that the stent is positioned on the balloon between markers. Therefore, Appellant argues that one skilled in the art would not be motivated to crimp the stent directly to the balloon as taught by Morales because it would not be positionable relative to the markers. However, it appears to the examiner that Appellant has overlooked the fact that the stent is positionable until it is crimped down on the balloon. In other words, Morales teaches positioning a stent onto a balloon and then crimping the stent directly to the balloon. Crimping the stent directly to the balloon does not inhibit positioning the stent between the markers because the stent must be positioned onto the balloon before crimping of the stent directly to the balloon as taught by Morales. Crimping the stent after it has been placed onto the balloon allows for a smaller crimped profile since the stent no longer needs a large enough diameter to

be able to slide over the balloon in its crimped profile. As is known in the art, smaller profiles are advantageous during intravascular procedures.

The device of Shortt in view of Morales does not meet the limitation of the maximum outer diameter of the distal section of the balloon uncovered by the stent being no greater than the initial outer diameter of the stent since Shortt discloses a distal pillow formed on this portion of the balloon as shown in figure 2 of Shortt. However, Hanson teaches that it is known to secure a stent to a balloon using either a proximal and distal pillow (figures 17 and 18; formed by dams 18 and 20), or a proximal pillow only (figures 15 and 16; formed by dam 18). Since a catheter assembly having a balloon-mounted stent with only a proximal pillow is known in the art and Hanson discloses such an arrangement as an alternative to having both a proximal and distal pillow, modifying the method of Shortt to include the formation of only the proximal pillow would have been considered a simple substitution of one known arrangement of stent retaining pillows for another wherein the results are predictable and there is a reasonable expectation of success. This reason for combining appears in the rejections presented in the final office action. One skilled in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Regarding the balloon's distal end being attached to the inner shaft near the distal end thereof, Appellant notes that the inflatable balloon and inner shaft appear to be distally co-terminal in figure 2 of Shortt and asserts that this does not constitute “near” according to the definition provided by Appellant of “at a little distance in place, time, manner or degree". Although Appellant can be his or her own lexicographer, this definition does not appear in the instant specification. Dictionary.com provides the following definition of near: "at, within, or to a short distance". Therefore, a co-terminal end would appear to meet this definition since the

distal end of the balloon falls *within* a short distance of the distal end of the shaft. In the final paragraph on page 10 of the appeal brief, Appellant also provides the definition of near as "being close by; not distant". Co-terminal ends meet this limitation as the distal ends of the inner shaft and balloon are touching each other, and therefore close by. In other words, it is the examiner's position that the adjective "near", when given its broadest reasonable interpretation, does not necessitate a small separation in its common usage. For the sake of argument, even if near is considered to necessitate a small separation, the distal end of the inner shaft can include more than just the distal-most edge of the shaft including portions that are not co-terminal with the distal-most edge of the balloon.

Appellant also argues that using Hanson's teaching of a single proximal pillow as an alternative to having both a proximal and distal pillow ignores the explicit teachings of Shortt in column 2, lines 4-11. This is not found persuasive as the stent of Hanson is not meant to move relative to the balloon during its advancement to the delivery site and Hanson teaches that a single proximal pillow is able to keep the balloon in position. Furthermore, the explicit teaching of Shortt that Appellant refers to does not disclose that one pillow will not work. In other words, Shortt merely discloses that two balloons are capable of preventing movement of the stent relative to the pillow. In this same cited passage, Shortt says that securely mounting a stent onto a balloon can also prevent this movement and therefore acknowledges that there are other methods for preventing this movement. Hanson teaches that a proximal pillow alone is also a known method of avoiding this movement and therefore one skilled in the art would have found it obvious to use this configuration. The examiner is not suggesting using the method of Hanson, which includes dams positioned underneath portions of the balloon, to construct the pillow. Rather, Hanson makes obvious other pillow arrangements including having only a

proximal pillow and therefore one skilled in the art would have found modifying the method of Shortt to include forming only a proximal pillow obvious.

Regarding the rejection of claim 11, Appellant argues that keeping the protective sleeve in a proximal position to the balloon prior to and during the manufacturing step and then sliding it over the balloon in a distal direction after the manufacturing step is completed is not an obvious design choice over sliding the sleeve in a proximal direction after the manufacturing step because pre-loading the sleeve and sliding it over the balloon material pushes the balloon material against the proximal edge of the stent, which provides a co-axial centering benefit to the delivery system. It is unclear how loading the sleeve in a proximal direction would not provide this same co-axial benefit since it will push balloon material against a distal edge of the stent, which would appear to provide the same co-axial centering benefit to the delivery system upon pullback into a guide catheter at abrupt take-off angles. This advantage is not disclosed in the specification or drawings of the instant application and there are no limitations regarding the sizing of the sleeve that would result in the balloon material being pushed against the proximal edge of the stent during sliding of the protective sleeve over the balloon.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kathleen Sonnett

/Kathleen Sonnett/

Examiner, Art Unit 3731

Conferees:

Anhtuan Nguyen
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Supervisory Patent Examiner, Art Unit 3731

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